

PME RESEARCH LABORATORY, APRIL 1980

PROJECT TITLE : ANALYTICAL INVESTIGATIONS
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TRIACETIN ESTROBOND B

Two MLF with CA filter additive triacetin Bayer containing 0.8 and 1.9 % of the ESTROBOND B additive glycerol-propionate-diacetate (isomer mixture) (1) were tested against commercial Swiss MLF in panel B. The results obtained are promising. In two panel tests the MLF containing 1.9 % additive was found, by the majority of the panel group, to have more Marlboro characteristic than the commercial MLF (2). Further tests are in preparation (3).

AMINO ACID ANALYSIS

The determination of amino acids in two PM-Richmond micro-samples (10 mg) of lyophilized smoke condensate (4) was completed (5). Due to the small size of the samples and the low amino acid concentration found in a first trial, the applicability of our routine method (determination and hydrolysis steps) to micro-samples had to be tested

Micro-samples (4 mg and 40 mg) of pure lysozyme protein of known amino acid profile were hydrolyzed in 2 ml of hydrochloric acid under conditions applied for routine determinations (6 N HCl, 110°, 48 h) and the individual amino acids analyzed (6). The results are summarized in table 1 and compared with values reported in the literature.

Judging by the results, the method works quite well even with very small protein samples.

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Table 1 Amino Acid Composition of Lysozyme Protein;
Comparative Tests.

Amino acid	Number of amino acids per mole of Lysozyme found: *)	Theor. values	Values reported in the literature					
			4 mg	40 mg	a)	a)	a)	b)
Try	-	-	6	4.0	-	-	3.6	-
Lys	6.0	5.8	6	6.9	6.8	7.1	6.1	6.0
His	1.1	1.4	1	1.1	1.1	1.3	0.9	0.9
Arg	10.3	12.7	11	11.8	11.1	10.6	12.0	10.1
Asp	21.4	22.6	21	21.4	18.9	20.3	20.5	21.0
Thr	7.3	6.9	7	6.5	6.8	6.5	6.9	6.2
Ser	9.2	9.5	10	9.2	9.1	8.7	9.6	7.3
Glu	4.9	5.3	5	5.3	5.2	5.2	4.6	4.8
Pro	-	3.4	2	7.2	3.7	3.5	3.2	2.0
Gly	12.9	13.1	12	12.0	12.0	12.0	11.6	12.0
Ala	11.7	12.3	12	12.0	12.3	12.1	11.4	12.0
½ Cys	-	2.9	8	-	-	-	-	6.6
Val	5.1	6.8	6	6.1	6.5	6.1	3.8	5.7
Met	-	2.2	2	2.2	2.2	1.9	1.7	1.9
Ile	5.0	5.7	6	6.1	6.1	5.6	4.4	5.8
Leu	7.4	8.5	8	8.1	8.0	7.9	7.7	7.9
Ty	1.5	3.2	3	3.1	3.3	1.2	3.1	2.9
Phe	1.7	3.1	3	2.7	3.3	1.6	3.5	2.8

*) mean values of three determinations.

a) L.B. James, J. of Chromatogr., 68 (1872) 123-130

b) H. Matsubara, Biochemical and Biophysical Research Communication, 35 (1969) 175-181

c) T.Y. Lui, J. of Biological Chemistry, 246 (1971) 2842-2848.

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- (1) E. Lecoultre, PME Research Laboratory, monthly progress report, March 1980.
- (2) Test de degustation panel B, No. N-76, March 21, 1980
- (3) Memo of E. Lecoultre to N. Nyffeler, April 25, 1980
- (4) Memo of J.L. Charles to W. Fink, February 21, 1980
- (5) Memo of W. Fink to J.L. Charles, April 11, 1980
- (6) E. Lecoultre, PME Research Laboratory, monthly progress report, February 1980.

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